

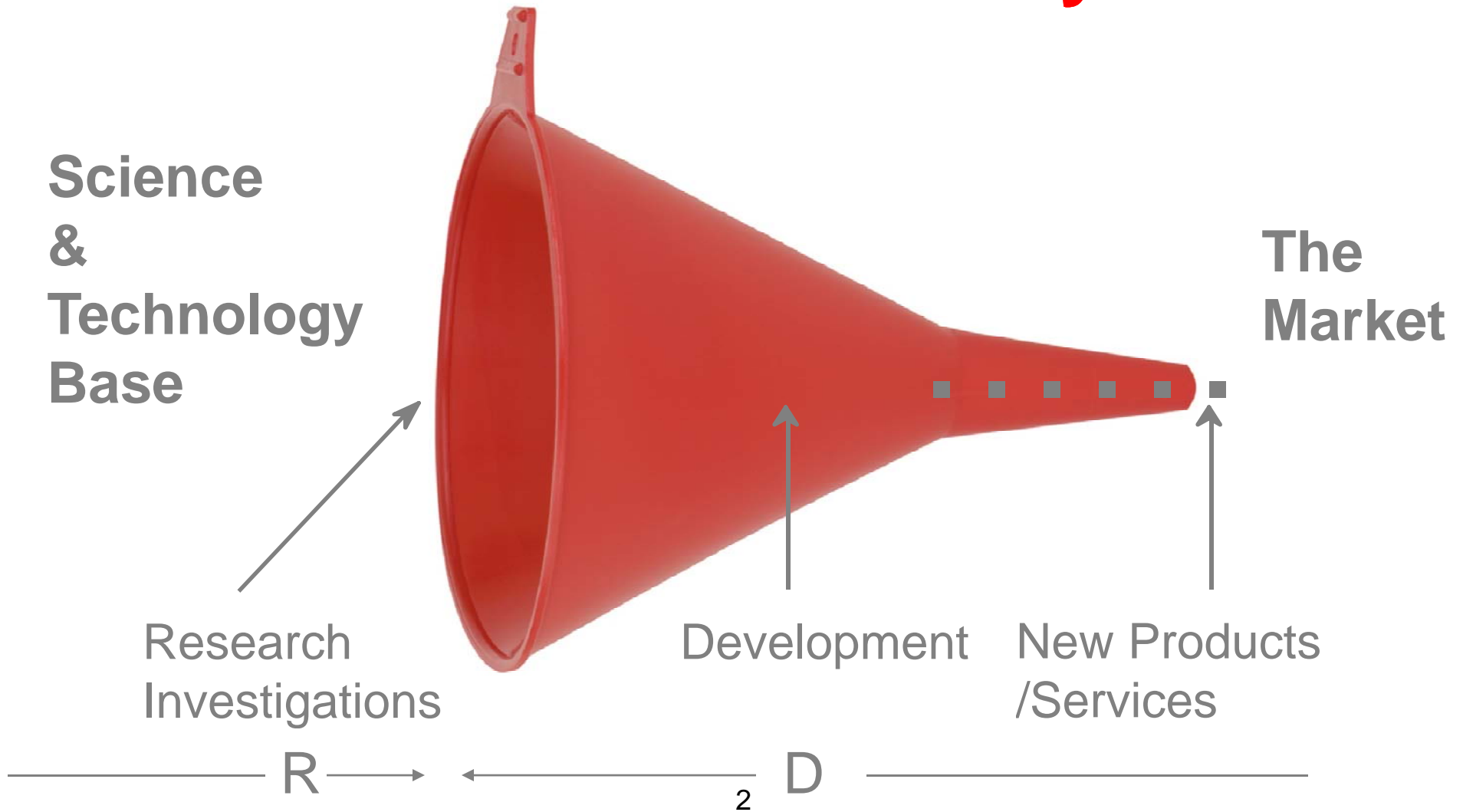
Secondary Markets for Patents

**Presentation to Berkeley IP Valuation
conference**

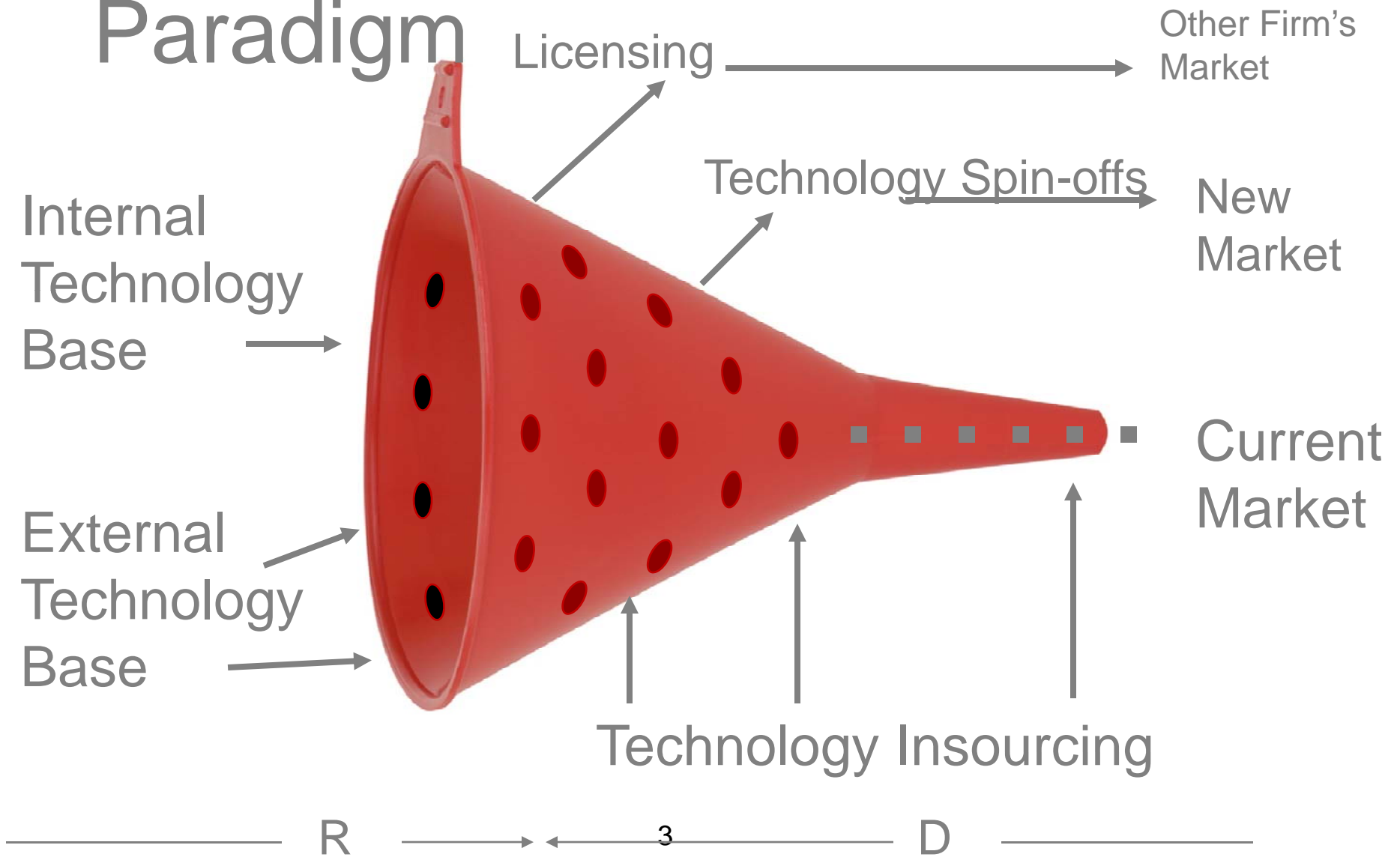
**Henry Chesbrough
Haas School of Business
UC Berkeley**

Feb. 6, 2009

The Current Paradigm: A Closed Innovation System



The Open Innovation Paradigm



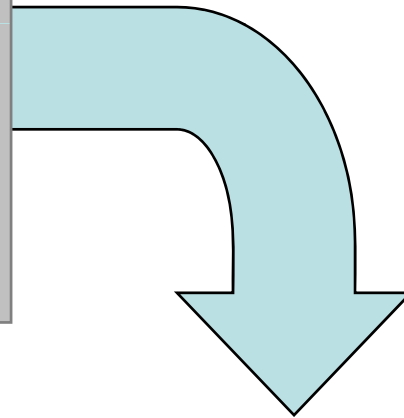
Burning Issues in IP Management

- Valuation
- Trolls
- Impact on the Innovation System

- Inefficiencies in the Market for IP
- Can secondary markets help sort this out privately, without government/legislation?

Example of recorded reassignment:

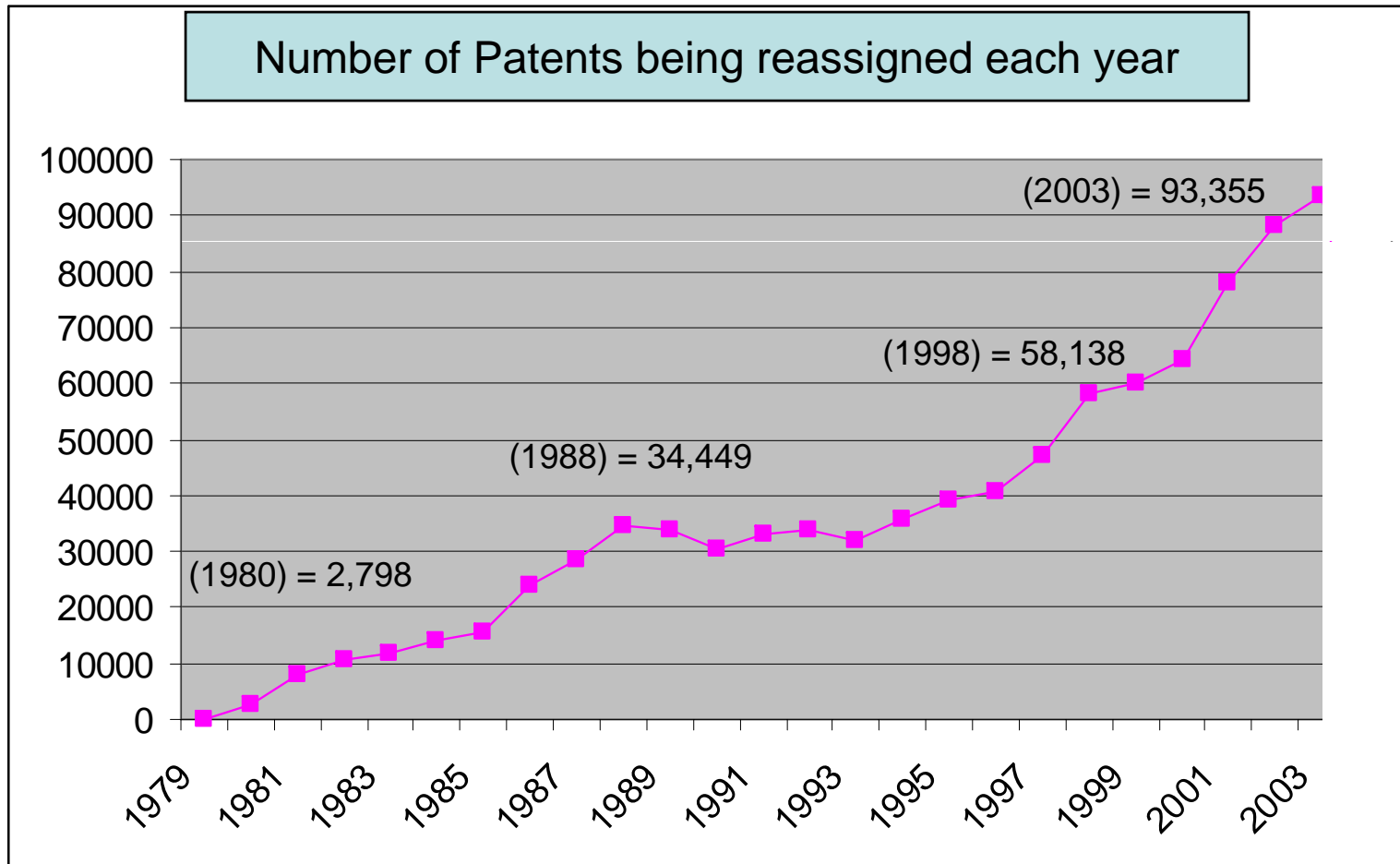
“**Intellectual Ventures LLC**, a technology development and licensing start-up formed by Microsoft veterans Nathan Myhrvold and Edward Jung, has won the bidding for **General Magic Inc's** portfolio of patents and other intellectual property, paying \$300,000.”
(Wall Street Journal, May 29, 2003)



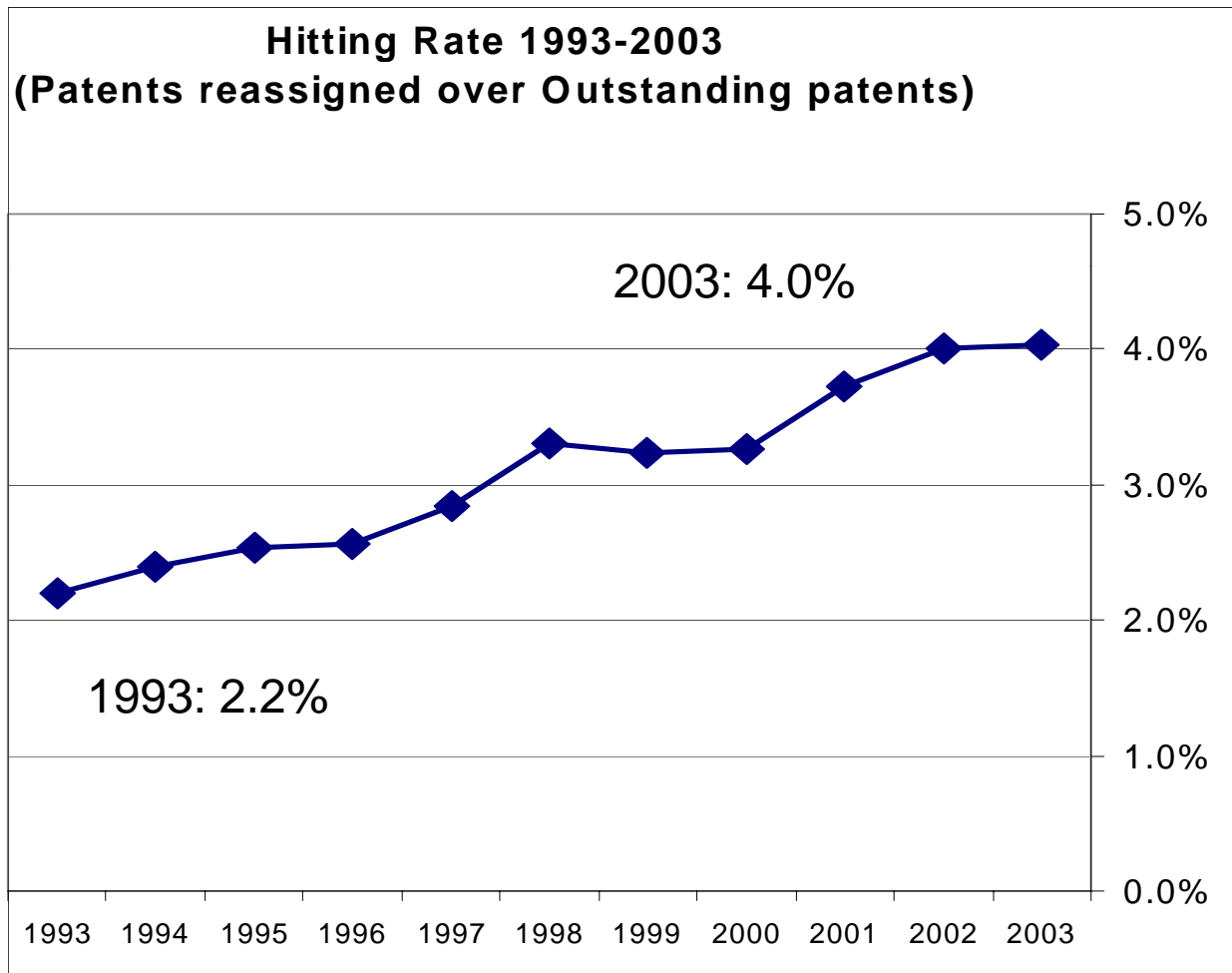
REASSIGNMENT INFORMATION

Date Recorded: July, 25 2003
Assignor: General Magic Inc. (Date signed 04/23/2003)
Assignee: Intellectual Ventures Patent Holding
Reassignment Kind: Assignment of Assignor Interest
Number of Patents reassigned: 20

Reassignments Growing



Overall Annual Reassignment Rate is increasing



The Reassignments of the “Symbios Patents”

1995.08.28 Hyundai
reassigns 63 patents to
Symbios.

1995.03.14 AT&T sells
NCR Microelectronics to
Hyundai. 60 patents are
reassigned.

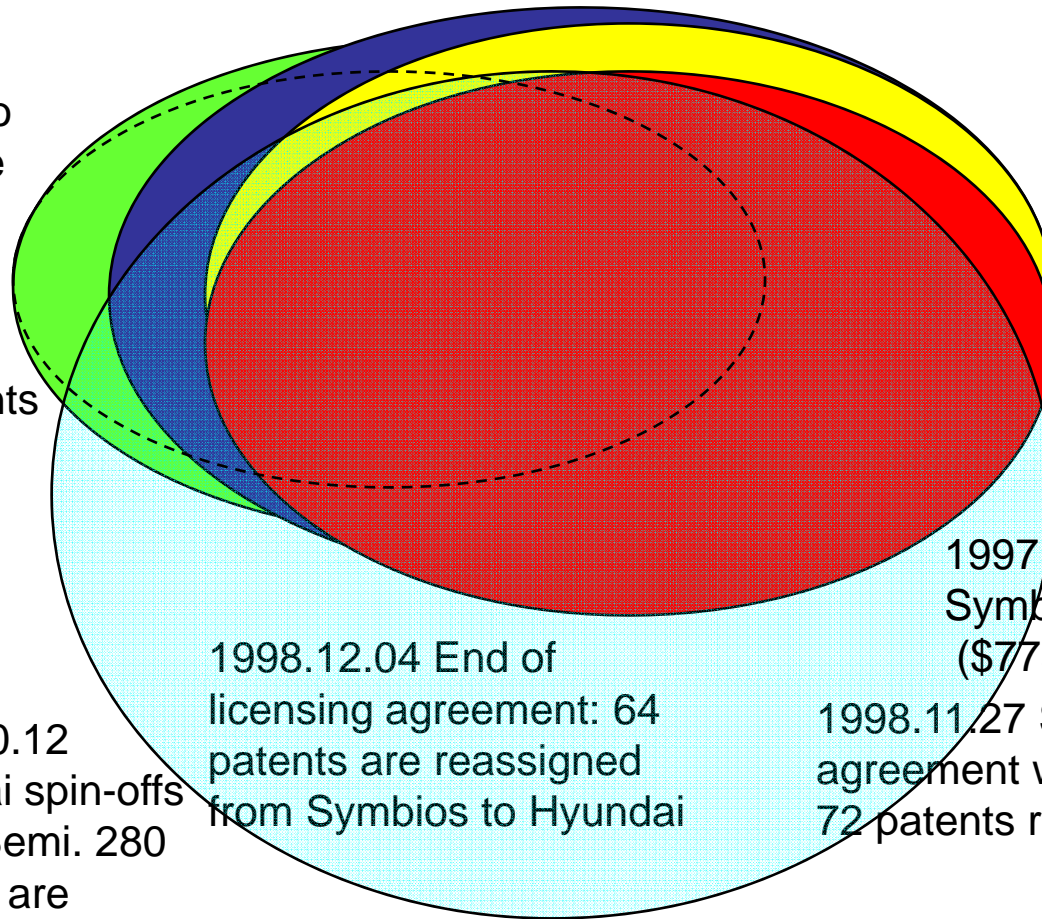
1998.03.10 Symbios
changes name. 77 patents
are reassigned.

2004.10.12
Hyundai spin-offs
Hynix Semi. 280
patents are
reassigned

1998.12.04 End of
licensing agreement: 64
patents are reassigned
from Symbios to Hyundai

1998.11.27 Security
agreement with Lehman.
72 patents reassigned

1997: Hyundai sells
Symbios to Adaptec
(\$775 mil)



Security: US 5149397

- Two reassignments for this patent:

Date	Assignor	Assignee	Reassignment Kind
06/21/2002	Xerox	Bank One	Security Interest
06/25/2003	Xerox	JPMorgan Chase Bank	Security Interest

Patent: "Fabrication methods for micromechanical elements", originally assigned to Xerox corporation. Application date: 1991.07.03. Date issued: 1992.09.22

Top Re-Assignees (H01L)

“BUYERS”

Company Name	Tot. Patents Reassigned TO company	Tot. Patents Reassigned FROM company	Tot Patents Reassigned TO C as % of total Patents	Tot Patents Reassigned FROM C as % of total Patents
NEC Corporation	2166	2158	55%	55%
Hewlett-Packard	405	398	61%	60%
Infineon	286	113	22%	9%
Micron Technology	222	96	4%	2%
STMicroelectronics	177	95	12%	6%
AMD	143	93	4%	3%
Nortel Networks	126	123	78%	76%
Lucent	120	179	10%	15%
Conexant Systems	120	148	77%	95%
Hitachi	104	116	4%	4%

Top Re-Assignors (H01L)

“SELLERS”

Company Name	Tot. Patents Reassigned TO company	Tot. Patents Reassigned FROM company	Tot Patents Reassigned TO C as % of total Patents	Tot Patents Reassigned FROM C as % of total Patents
NEC Corporation	2166	2158	55%	55%
Motorola	69	1545	3%	66%
Hewlett-Packard	405	398	61%	60%
Xerox Corporation	11	280	2%	60%
Lucent	120	179	10%	15%
Texas Instruments	59	169	2%	5%
Conexant Systems	120	148	77%	95%
Nortel Networks	126	123	78%	76%
Hitachi	104	116	4%	4%
Infineon	286	113	22%	9%

Business model experiments emerging as well

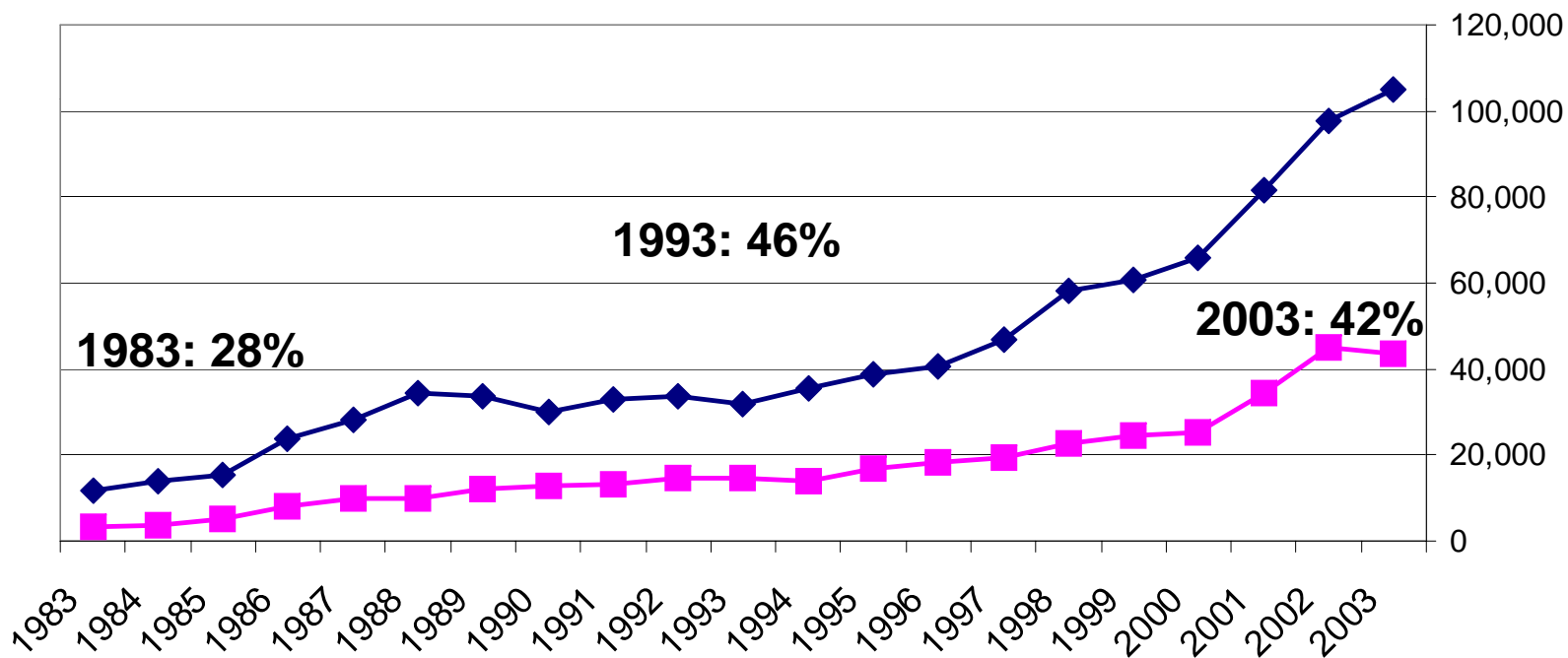
- Intellectual Ventures: 20,000+ patents, \$5 billion under management, major licensing deals
 - Also per patent licensing fees
- RPX: defensive patent pool, revenues from membership fees from \$35K to \$5 million
 - No per patent licensing fees
- IBM, HP exploring patent insurance models
- Halliburton patent application for patent trolling
 - To be used defensively if granted
- Merck Gene Index
 - Pre-emptive publishing

Implications

- More open innovation processes supply and demand secondary markets for IP
- Still highly inefficient market, poor information
 - Insiders, and the rest of us
 - Unlikely to be socially optimal, or even allocatively efficient
- Opportunities exist to enhance availability of information on secondary markets
 - Reduce price dispersion, information asymmetries
- Pre-emptive strategies may become more common

Backup slides

Reassignment Kind: Security 1983-2003 (Patents reassigned as "Security or Release of Security")



What does a Reassignment Title grant?

- The certificate of such acknowledgment constitutes **prima facie evidence** of the execution of the assignment, grant, or conveyance.
- This is both the official language of the USPTO and it has been confirmed by IP lawyer.
 - However it is not clear whether patent reassignments have ever been used in court during patent litigations.

Are Reassignments part of a more complex deal?



- A follow up to John King's interview: “usually companies reassign patent when they are selling/acquiring other assets, or in situations of merging/spinoffs, when the structure of corporate control changes.”
- What is the percentage of transactions that happen between:
 - previously independent corporations
 - Internal transactions between subsidiaries
 - merging corporations
 - spin-off operations
 - results from bankruptcies
 - security agreements
 - alliances/joint ventures and the likes
 - pure technology transfers

Definitions

Throughout this paper we will use the following definitions:

- **Reassignment event.** It happens when a patents gets reassigned once.
- **Reassigned Patents.** A patent is reassigned when a reassignment occurs. For the way the IFI database is designed, when counting reassignment of patents, and aggregating these reassignment by years, we are counting only one reassignment per patent even if this patent has been reassigned more than once each year. i.e. reassignment events \geq reassigned patents
- **Vintage.** Is the registration year of a reassigned patent
- **Maturation.** Difference (in years) between the date of the reassignment and the date of the patent's registration
- **Assignee (of reassignment):** is the company/individual that becomes the assignee of the patent after the reassignment
- **Assignor (of reassignment):** is the company/individual that was the assignee of the patent prior of patent's reassignment
- **Hitting Rate:** number of reassignments (events or patents) over number of patents
- **IPC:** International Patent Class (see appendix for the description of the classes codes that have been here referred to).

“Restless...”

Patent class	Total Patents	Pat_abs_ranking	Total Reassignments	Reass_abs_ranking	%Rea/Pat	%_>500_rank	%_>1000_rank	%_>2000_rank
B61D??	2128	318	629	233	30%	4	3	1
A22C??	3096	257	849	186	27%	7	4	2
C06B??	2111	319	575	247	27%	8	5	3
A21D??	2226	307	606	240	27%	9	6	4
E02F??	3684	235	988	167	27%	11	8	5
D06P??	3422	245	916	177	27%	12	9	6
C03B??	7486	142	1952	93	26%	14	11	7
A01D??	7150	148	1804	99	25%	19	12	8
C09B??	5293	188	1333	133	25%	20	13	9
F22B??	2398	295	603	241	25%	22	14	10

Let's do the numbers

- Overall, from 1979 to October 2004
 - 623,583 patents have been reassigned at least once.
 - 969,168 times a patent has been reassigned at least once a year.
 - On average, for the entire period, excluding the patents that have not been reassigned, a patent is reassigned 1.6 times.
 - Average reassignment/patent ratio is 0.17 (sd 0.55)
- Most of the patent reassignments recorded in the IFI Claims database (approximately 90-95%) happen between corporations.
 - These numbers do not take into account the first reassignment between inventor and employer, which the Dialog database “incorporates” in the patent information by recognizing the company where the inventor is working as the “original assignee” of the patent.
 - Reassignments between individuals are however present. Looking at a large sample of patents (semiconductors International Patent Class H01L), where we see recorded patent transactions between an individual inventor and a corporation
 - More rarely, we see a corporation assign a patent to an individual